

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 316

NONMETALLIC MINERAL MINING AND PROCESSING

INDEX

SECTION 100 - GENERAL

- 101 PURPOSE
- 102 APPLICABILITY

SECTION 200 - DEFINITIONS

- 201 AFFECTED OPERATION
- 202 APPROVED EMISSION CONTROL SYSTEM
- ~~203~~ 203 AREA ACCESSIBLE TO THE PUBLIC
- ~~203~~ 204 ASPHALTIC CONCRETE PLANT/ASPHALT PLANT
- ~~204~~ 205 BAGGING OPERATION
- ~~205~~ 206 BELT CONVEYOR
- 207 BERMS AND GUARD RAILS
- 208 BULK MATERIAL
- 209 CENTRAL MIX CONCRETE PLANT
- 210 CERTIFIED METHOD 9 OBSERVER
- ~~206~~ 211 CONCRETE PLANT
- ~~207~~ 212 CONVEYING SYSTEM
- ~~208~~ 213 CRUSHER
- 214 DISTURBED SURFACE AREA
- ~~209~~ 215 DRY MIX CONCRETE PLANT
- 216 DUST SUPPRESSANT
- ~~210~~ 217 ENCLOSED TRUCK OR RAILCAR LOADING STATION
- 218 FABRIC FILTER BAGHOUSE
- 219 FUGITIVE DUST CONTROL MEASURE
- 220 FUGITIVE DUST CONTROL TECHNICIAN
- ~~211~~ 221 FUGITIVE DUST EMISSION
- ~~212~~ 222 GRINDING MILL
- 223 HAUL TRUCK
- 224 MOTOR VEHICLE
- 225 NEW FACILITY

Draft Rule 316 – August 25, 2004

Contact Johanna M. Kuspert At 602-506-3476 Or By E-Mail At jkuspert@mail.maricopa.gov

213	<u>226</u>	NONMETALLIC MINERAL
214	<u>227</u>	NONMETALLIC MINERAL PROCESSING PLANT
	<u>228</u>	<u>OPEN AREAS AND VACANT LOTS</u>
	<u>229</u>	<u>OPEN STORAGE PILE</u>
	215	PARTICULATE MATTER
216	<u>230</u>	PARTICULATE MATTER EMISSIONS
	<u>231</u>	<u>PAVE</u>
	<u>232</u>	<u>PORTLAND CEMENT PLANT</u>
	<u>233</u>	<u>PRESSURE CONTROL SYSTEM</u>
217	<u>234</u>	PROCESS
218	<u>235</u>	PROCESS SOURCE
	<u>236</u>	<u>PUBLIC ROADWAYS</u>
219	<u>237</u>	SCREENING OPERATION
	<u>238</u>	<u>SPILLAGE</u>
220	<u>239</u>	STACK EMISSIONS
221	<u>240</u>	STORAGE BIN
	<u>241</u>	<u>TEMPORARY FACILITY</u>
	<u>242</u>	<u>TRACKOUT</u>
	<u>243</u>	<u>TRACKOUT CONTROL DEVICE</u>
222	<u>244</u>	TRANSFER POINT
223	<u>245</u>	TRUCK DUMPING
	<u>246</u>	<u>UNPAVED HAUL/ACCESS ROAD</u>
	<u>247</u>	<u>URBAN OR SUBURBAN AREA</u>
224	<u>248</u>	VENT
	<u>249</u>	<u>WET MIX CONCRETE PLANT</u>
	<u>250</u>	<u>WET PLANT</u>
	<u>251</u>	<u>WIND-BLOWN DUST</u>
	<u>252</u>	<u>WIND EVENT</u>

SECTION 300 - STANDARDS

301	LIMITATIONS NONMETALLIC MINERAL PROCESSING PLANTS - <u>PROCESS EMISSION LIMITATIONS</u>
302	LIMITATIONS ASPHALTIC CONCRETE PLANTS - <u>PROCESS EMISSION LIMITATIONS</u>
303	LIMITATIONS CONCRETE PLANTS AND BAGGING OPERATIONS - <u>PROCESS EMISSION LIMITATIONS</u>
304	LIMITATIONS OTHER ASSOCIATED OPERATIONS

Draft Rule 316 – August 25, 2004

Contact Johanna M. Kuspert At 602-506-3476 Or By E-Mail At jkuspert@mail.maricopa.gov

- 305 ~~REQUIREMENT FOR~~ AIR POLLUTION CONTROL EQUIPMENT AND APPROVED
EMISSION CONTROL SYSTEM (ECS) ~~MONITORING EQUIPMENT~~
- 306 FUGITIVE DUST EMISSION LIMITATIONS AND FUGITIVE DUST CONTROL
MEASURES
- 307 DUST CONTROL PLAN

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

- 401 ~~O&M PLAN~~ COMPLIANCE SCHEDULE

SECTION 500 - MONITORING AND RECORDS

- 501 RECORDKEEPING AND REPORTING
- 502 COMPLIANCE DETERMINATION/TEST METHODS ADOPTED BY REFERENCE

Adopted 07/06/93

Revised 04/21/99

MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 316
NONMETALLIC MINERAL MINING AND PROCESSING

SECTION 100 - GENERAL

- 101 PURPOSE:** To limit the emission of particulate matter into the ambient air from any nonmetallic ~~mining operation~~ mineral processing plant or rock product processing plant.
- 102 APPLICABILITY:** The provisions of this rule shall apply to any commercial and/or industrial nonmetallic mineral ~~mining~~ processing plant operation and/or rock product processing plant operation. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Source Performance Standards. In such case, the more stringent standard shall apply.

SECTION 200 - DEFINITIONS: ~~For the purpose of this rule, the following definitions shall apply: See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:~~

- 201 AFFECTED OPERATION** - An operation that excavates and processes nonmetallic minerals or that is related to such processing and process sources including, but not limited to, crushers, grinding mills, screening equipment, conveying systems, elevators, transfer points, bagging operations, storage bins, enclosed truck and railcar loading stations, and truck dumping.
- 202 APPROVED EMISSION CONTROL SYSTEM** - A system for reducing particulate emissions, consisting of collection and/or control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.
- 203 AREA ACCESSIBLE TO THE PUBLIC** - Any retail parking lot or public roadway that is open to public travel primarily for the purposes unrelated to the dust generating operation/facility.

- 203 **204** **ASPHALTIC CONCRETE PLANT/ASPHALT PLANT** - Any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.
- 204 **205** **BAGGING OPERATION** - The mechanical process by which bags are filled with nonmetallic minerals.
- 205 **206** **BELT CONVEYOR** - A conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.
- 207** **BERM AND GUARD RAILS** - A pile or mound of material along an elevated roadway capable of moderating or limiting the force of a vehicle in order to impede the vehicle's passage over the bank of the roadway.
- 208** **BULK MATERIAL** - Any material, including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter (i.e., aggregate base course (ABC)), dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that are capable of producing fugitive dust.
- 209** **CENTRAL MIX CONCRETE PLANT** - Concrete plant where concrete is manufactured in a central mix drum and transferred to a transport truck. If a central mix drum is used, then the system is called a wet batch. If the cement and aggregate go directly to a ready-mix truck, then the system is called a dry batch.
- 210** **CERTIFIED METHOD 9 OBSERVER** - An observer certified to determine opacity as visible emissions in accordance with the provisions of the Environmental Protection Agency (EPA) Method 9 as specified in 40 Code Of Federal Regulations (CFR), Part 60, Appendix A.
- 206 **211** **CONCRETE PLANT** - Any facility used to manufacture concrete by mixing water, aggregate, and cement.
- 207 **212** **CONVEYING SYSTEM** - A device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include, but are not limited to, feeders, belt conveyers, bucket elevators and ~~pneumatic~~ pressure control systems.
- 208 **213** **CRUSHER** - A machine used to crush any nonmetallic minerals, including, but not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

- 214** **DISTURBED SURFACE AREA** - A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust.
- 209 **215** **DRY MIX CONCRETE PLANT** - Any facility used to manufacture a mixture of aggregate and cements without the addition of water.
- 216** **DUST SUPPRESSANT** - Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer, or any other dust palliative, which is not prohibited for ground surface application by the EPA or the Arizona Department of Environmental Quality (ADEQ), or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.
- 240 **217** **ENCLOSED TRUCK OR RAILCAR LOADING STATION** - That portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.
- 218** **FABRIC FILTER BAGHOUSE** - Tube-shaped filter bags/Long small-diameter fabric tubes referred to as "bags" arranged in parallel flow paths designed to separate particles and flue gas.
- 219** **FUGITIVE DUST CONTROL MEASURE** - A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust.
- 220** **FUGITIVE DUST CONTROL TECHNICIAN** - A person with the authority to expeditiously employ sufficient fugitive dust control measures to ensure compliance with Rule 316 of these rules at an active operation.
- 241 **221** **FUGITIVE DUST EMISSION** - Particulate matter ~~that is not collected by a capture system and that is released to and suspended~~ entrained in the ambient air- and is caused from human and/or natural activities.
- 242 **222** **GRINDING MILL** - A machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

- 223** **HAUL TRUCK** - Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as, but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.
- 224** **MOTOR VEHICLE** - A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.
- 225** **NEW FACILITY** - A facility subject to this rule that has not been mined or excavated by such facility prior to xxxx xx, 2004.
- ~~213~~ **226** **NONMETALLIC MINERAL** - Any of the following minerals or any mixture of which the majority is any of the following minerals:
- ~~213.1~~ **226.1** Crushed and broken stone, including limestone, dolomite, granite, rhyolite, traprock, sandstone, quartz, quartzite, marl, marble, slate, shale, oil shale, and shell.
- ~~213.2~~ **226.2** Sand and gravel.
- ~~213.3~~ **226.3** Clay including kaolin, fireclay, bentonite, fuller's earth, ball clay, and common clay.
- ~~213.4~~ **226.4** Rock salt.
- ~~213.5~~ **226.5** Gypsum.
- ~~213.6~~ **226.6** Sodium compounds, including sodium carbonate, sodium chloride, and sodium sulfate.
- ~~213.7~~ **226.7** Pumice.
- ~~213.8~~ **226.8** Gilsonite.
- ~~213.9~~ **226.9** Talc and pyrophyllite.
- ~~213.10~~ **226.10** Boron, including borax, kernite, and colemanite.
- ~~213.11~~ **226.11** Barite.
- ~~213.12~~ **226.12** Fluorspar.
- ~~213.13~~ **226.13** Feldspar.
- ~~213.14~~ **226.14** Diatomite.
- ~~213.15~~ **226.15** Perlite.
- ~~213.16~~ **226.16** Vermiculite.
- ~~213.17~~ **226.17** Mica.
- ~~213.18~~ **226.18** Kyanite, including andalusite, sillimanite, topaz, and dumortierite.
- ~~213.19~~ **226.19** Coal.

- 214 **227** **NONMETALLIC MINERAL PROCESSING PLANT** - Any facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral, including, but not limited to: lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, and sand and gravel plants. Rock Product Processing Plants are included in this definition.
- 228** **OPEN AREAS AND VACANT LOTS** - Any of the following described in Section 228.1 through Section 228.4 of this rule. For the purpose of this rule, vacant portions of residential or commercial lots that are immediately adjacent and owned and/or operated by the same individual or entity are considered one open area or vacant lot.
- 228.1** An unsubdivided or undeveloped tract of land adjoining a developed or partially developed residential, industrial, institutional, governmental, or commercial area.
- 228.2** A subdivided residential, industrial, institutional, governmental, or commercial lot that contains no approved or permitted buildings or structures of a temporary or permanent nature.
- 228.3** A partially developed residential, industrial, institutional, governmental, or commercial lot.
- 228.4** A tract of land, in the nonattainment area, adjoining agricultural property.
- 229** **OPEN STORAGE PILE** - Any accumulation of bulk material with a 5% or greater silt content which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-01 or other equivalent method approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA), that the silt content is less than 5%.
- 215 ~~PARTICULATE MATTER — Any material, except uncombined water, which has a nominal aerodynamic diameter smaller than 100 microns (micrometers), and which exists in a finely divided form as a liquid or solid at actual conditions.~~
- 216 **230** **PARTICULATE MATTER EMISSIONS** - Any and all finely divided solid or liquid materials other than ~~uncombined~~ condensed water released to the ambient air as measured by the applicable state and federal test methods.

- 231** **PAVE** - To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, or rubberized asphalt).
- 232** **PORTLAND CEMENT PLANT** - Any facility that manufactures Portland Cement using either a wet or dry process.
- 233** **PRESSURE CONTROL SYSTEM** - System in which loads are moved in the proper sequence, at the correct time, and at the desired speed through use of valves that control the direction of air flow, regulate actuator speed, and respond to changes in air pressure.
- 217 **234** **PROCESS** - One or more operations including those using equipment and technology in the production of goods or services or the control of by-products or waste.
- 218 **235** **PROCESS SOURCE** - The last operation of a process or a distinctly separate process which produces an air contaminant and which is not a pollution abatement operation.
- 236** **PUBLIC ROADWAYS** - Any roadways that are open to public travel.
- 219 **237** **SCREENING OPERATION** - A device that separates material according to its size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).
- 238** **SPILLAGE** - Any quantity of nonmetallic minerals/materials that spill while being processed or after having been processed by an affected operation, where such spilled nonmetallic minerals/materials can generate or cause fugitive dust emissions.
- 220 **239** **STACK EMISSIONS** - The particulate matter emissions that are released to the atmosphere from a capture system through a building vent, stack or other point source discharge.
- 221 **240** **STORAGE BIN** - A facility enclosure, hopper, silo or surge bin for the storage of nonmetallic minerals prior to further processing or loading.
- 241** **TEMPORARY FACILITY** - A facility that occupies a designated site for not more than 180 days in a calendar year.

- 242** **TRACKOUT** - Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.
- 243** **TRACKOUT CONTROL DEVICE** - A gravel pad, grizzly, wheel wash system, rumble grates, or a paved area, located at the point of intersection of an unpaved area and a paved area accessible to the public that controls or prevents vehicular trackout.
- 222 **244** **TRANSFER POINT** - A point in a conveying operation where nonmetallic mineral is transferred from or to a belt conveyor except for transfer to a stockpile.
- 223 **245** **TRUCK DUMPING** - The unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to, trucks, front end loaders, skip hoists, and railcars.
- 246** **UNPAVED HAUL/ACCESS ROAD** - Any on-site unpaved road used by commercial, industrial, institutional, and/or governmental traffic.
- 247** **URBAN OR SUBURBAN AREA** - The definition of urban or suburban open area is included in Section 228 (Definition Of Open Areas And Vacant Lots) of this rule.
- 224 **248** **VENT** - An opening through which there is mechanically or naturally induced air flow for the purpose of exhausting air carrying particulate matter.
- 249** **WET MIX CONCRETE PLANT** - The definition of wet mix concrete plant is included in Section 209 (Definition Of Central Mix Concrete Plant) of this rule.
- 250** **WET PLANT** - The definition of wet plant is included in Section 209 (Definition Of Central Mix Concrete Plant) of this rule.
- 251** **WIND-BLOWN DUST** - Visible emissions, from any disturbed surface area, that are generated by wind action alone.
- 252** **WIND EVENT** - When the 60-minute average wind speed is greater than 25 miles per hour.

SECTION 300 - STANDARDS

301 ~~LIMITATIONS~~ NONMETALLIC MINERAL PROCESSING PLANTS - PROCESS

EMISSION LIMITATIONS: ~~No person~~ The owner and/or operator of a nonmetallic mineral processing plant shall not discharge or cause or allow to be discharged into the ambient air:

301.1 Stack emissions exceeding 7% opacity and containing more than 0.02 grains/dry standard cubic foot (gr/dscf) (50 mg/dscm) of particulate matter. Such stack emissions shall be vented to a properly sized fabric filter baghouse.

301.2 Fugitive dust emissions from any transfer point on a conveying system exceeding 7% opacity.

301.3 Fugitive dust emissions exceeding 15% opacity from any crusher.

301.4 Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping directly into any screening operation, feed hopper, or crusher.

301.5 Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.

302 ~~LIMITATIONS~~ ASPHALTIC CONCRETE PLANTS - PROCESS EMISSION

LIMITATIONS: ~~No person~~ The owner and/or operator of an asphaltic concrete plant shall not discharge or cause or allow to be discharged into the ambient air:

302.1 Stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg/dscm) of particulate matter.

302.2 Fugitive dust emissions exceeding 20% opacity from any other affected operation or process source.

303 ~~LIMITATIONS CONCRETE PLANTS AND BAGGING OPERATIONS:~~ CONCRETE PLANTS

AND BAGGING OPERATIONS - PROCESS EMISSION LIMITATIONS: ~~No person~~ The owner and/or operator of a concrete plant and bagging operation shall not discharge or cause or allow to be discharged into the ambient air:

303.1 Stack emissions exceeding 7% opacity.

303.2 Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping directly into any screening operation, feed hopper, or crusher.

303.3 Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.

304 ~~LIMITATIONS~~ **OTHER ASSOCIATED OPERATIONS:** All other ~~activities~~ operations not specifically listed in Sections 301, 302, or 303 of this rule associated with the ~~mining and~~ processing of nonmetallic minerals shall, at a minimum, meet the provisions of Rule 310 of these rules.

305 ~~REQUIREMENT FOR AIR POLLUTION CONTROL EQUIPMENT AND APPROVED EMISSION CONTROL SYSTEM (ECS) MONITORING EQUIPMENT:~~ **REQUIREMENT FOR AIR POLLUTION CONTROL EQUIPMENT AND APPROVED EMISSION CONTROL SYSTEM (ECS) MONITORING EQUIPMENT:** ~~For the purposes of this rule, an emission control system (ECS) is a system for reducing emissions of particulates, consisting of both collection and control devices, which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practices.~~

305.1 Operation And Maintenance (O&M) Plan Requirements For ECS:

- a. An owner ~~or~~ and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for any ECS, any other emission processing equipment, and any ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit.
- b. The owner ~~or~~ and/or operator of a facility shall submit to the Control Officer for approval the O&M Plan(s) ~~or~~ for each ECS and ~~or~~ for each ECS monitoring device that is used pursuant to this rule.
- c. The owner ~~or~~ and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.

305.2 Providing And Maintaining ECS Monitoring Devices: An owner ~~or~~ and/or operator of a facility operating an ECS pursuant to this rule shall install, maintain, and calibrate monitoring devices described in the O&M ~~Plan~~ Plan(s). The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.

305.3 O&M Plan Responsibility: An owner ~~or~~ and/or operator of a facility that is required to have an O&M Plan pursuant to ~~subsection 305.1~~ Section 305.1 of this rule must fully comply with all O&M Plans that the owner ~~or~~ and/or operator has submitted for approval, even if such O&M Plans have not yet been approved, unless notified in writing by the Control Officer.

306 FUGITIVE DUST EMISSION LIMITATIONS AND FUGITIVE DUST CONTROL

MEASURES: An owner and/or operator of a facility shall comply with the following emission limitations and/or shall implement the following fugitive dust control measures, as applicable, in accordance with the test methods described in Sections 502.2 and 502.3 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

306.1 Wind Event: An owner and/or operator of a facility shall not cause or allow fugitive dust emissions from any active operation, open storage pile, or disturbed surface area associated with such facility such that the presence of such fugitive dust emissions remain visible in the atmosphere beyond the property line of such facility. This standard does not apply to activities not related to the operation of the facility and during a wind event, if the following high wind fugitive dust control measures are implemented, as applicable:

a. For an active operation, implement one of the following, in accordance with the test methods described in Sections 502.2 and 502.3 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

- 1.** Cease active operation for the duration of the wind event and, if active operation is ceased for the remainder of the work day, stabilize the area;
- 2.** Apply water or other suitable dust suppressant other than water at least twice per hour or in sufficient quantities to meet the stabilization standards described in Sections 502.2 and 502.3 of this rule ;
- 3.** Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent method as approved by the Control Officer and the Administrator of the EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent method approved by the Control Officer and the Administrator of the EPA, maintain at least 70% optimum soil moisture content; or

- 4.** Implement Section 306.1(a)(2) or Section 306.1(a)(3) and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of wind-blown dust leaving the site.
- b.** For an open storage pile, implement one of the following, in accordance with the test methods described in Sections 502.2 and 502.3 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

 - 1.** Apply water twice per hour; or
 - 2.** Cover open storage pile with tarps, plastic, or other material such that wind will not remove the covering.
- c.** For a disturbed surface area, implement one of the following, in accordance with the test methods described in Sections 502.2 and 502.3 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

 - 1.** Uniformly apply and maintain surface gravel or a dust suppressant other than water; or
 - 2.** Apply water to all disturbed surface areas three times per day. If there is any evidence of wind-blown dust, increase watering frequency to a minimum of four times per day.

306.2 **Certified Method 9 Observer:** The owner and/or operator of a crushing and screening facility, an asphaltic concrete plant, and/or a concrete plant and bagging operation shall have on-site or have available on-site within 30 minutes a Certified Method 9 Observer. Such Certified Method 9 Observer shall conduct routine surveillance, recordkeeping, and reporting to ensure compliance with visible emission requirements. Such Certified Method 9 Observer shall have authority to implement fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.

306.3 **Fugitive Dust Control Technician:** The owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more per hour of material shall have in place a Fugitive Dust Control Technician or his designee, who shall meet all of the following qualifications:

- a. Be authorized by the owner and/or operator of the facility to conduct routine inspections, recordkeeping, and reporting to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with this rule.
- b. Be authorized by the owner and/or operator of the facility to install, maintain, and use fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.
- c. Be on-site or be available on-site within 30 minutes.
- d. Be issued a valid Certificate Of Completion of the Maricopa County Fugitive Dust Control Class.
- e. Be certified to determine opacity as visible emissions in accordance with the provisions of the EPA Method 9 as specified in 40 CFR, Part 60, Appendix A.

306.4 **Operational Overflow Warning System/Device:** The owner and/or operator of an asphaltic concrete plant and/or a concrete plant and bagging operation shall install an operational overflow warning system/device on all cement, lime, and fly-ash storage silos to allow operators to manually shut-off loading operations in sufficient time prior to the cement, lime, and fly-ash storage silo(s) reaching capacity and adversely impacting the pollution abatement equipment.

306.5 **Open Storage Piles And Material Handling:** The owner and/or operator of a facility shall implement all of the following fugitive dust control measures, as applicable. For the purpose of this rule, open storage piles and material handling does not include berms and guard rails that are installed to comply with 30 CFR 56.93000.

- a. Prior to and/or while conducting stacking, loading, and unloading operations, implement one of the following fugitive dust control measures:
 - 1. Spray material with water, as necessary:
 - 2. Spray material with a dust suppressant other than water, as necessary.

- b.** When not conducting stacking, loading, and unloading operations, implement one of the following fugitive dust control measures:
- 1.** Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the covering;
 - 2.** Spray material with water, as necessary;
 - 3.** Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent methods approved by the Control Officer and the Administrator of the EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent methods approved by the Control Officer and the Administrator of the EPA, maintain at least 70% of the optimum soil moisture content;
 - 4.** Meet one of the following stabilization requirements:
 - i.** Maintain a visible crust;
 - ii.** Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;
 - iii.** Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;
 - iv.** Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;
 - v.** Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction

velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;

vi. Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or

vii. Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator of the EPA; or

5. Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%. If complying with this work practice, the owner and/or operator of such facility shall also comply with the silt loading standards in Section 306.5(b)(3) of this rule or the stabilization requirements in Section 306.5(b)(4) of this rule.

c. When installing new open storage piles at an existing facility and/or when installing new open storage piles at a new facility, the owner and/or operator shall implement all of the following fugitive dust control measures, only if it is determined to be feasible on a case-by-case basis through the Dust Control Plan by assessing the amount of open land available at the property at the time the new open storage piles are formed:

1. Install the open storage pile(s) at least 25 feet from the property line.

2. Limit the height of the open storage pile(s) to less than 45 feet.

306.6 Surface Stabilization Where Support Equipment And Vehicles Operate: The owner and/or operator of a facility shall stabilize surface soils where loaders, support equipment, and vehicles will operate by implementing one of the following fugitive dust control measures:

- a. Pre-water surface soils, such that fugitive dust emissions do not exceed 20% opacity as tested by methods described in Appendix C (Fugitive Dust Test Methods) of these rules; or
- b. Apply and maintain a dust suppressant other than water, such that fugitive dust emissions do not exceed 20% opacity as tested by methods described in Appendix C (Fugitive Dust Test Methods) of these rules.

306.7 Unpaved Haul/Access Roads: The owner and/or operator of a facility shall implement one or more of the following fugitive dust control measures, before engaging in the use of, or in the maintenance of, unpaved haul/access roads:

- a. Install and maintain bumps, humps, or dips for speed control and apply water so that the surface is visibly moist and fugitive dust emissions do not exceed 20% opacity and one of the following:
 - 1. Silt loading is not equal to or greater than 0.33 oz/ft²; or
 - 2. Silt content does not exceed 6%; or
- b. Apply water so that the surface is visibly moist and fugitive dust emissions do not exceed 20% opacity and one of the following:
 - 1. Silt loading is not equal to or greater than 0.33 oz/ft²; or
 - 2. Silt content does not exceed 6%; or
- c. Pave; or
- e. Apply and maintain gravel, recycled asphalt, or other suitable material so that fugitive dust emissions do not exceed 20% opacity and one of the following:
 - 1. Silt loading is not equal to or greater than 0.33 oz/ft²; or
 - 2. Silt content does not exceed 6%; or

- f.** Apply a suitable dust suppressant, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

 - 1.** Silt loading is not equal to or greater than 0.33 oz/ft²; or
 - 2.** Silt content does not exceed 6%; or
- g.** Limit vehicle speeds, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

 - 1.** Silt loading is not equal to or greater than 0.33 oz/ft²; or
 - 2.** Silt content does not exceed 6%; or
- h.** **Fugitive Dust Emissions:** The owner and/or operator of a facility shall not discharge or cause or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity from unpaved haul/access roads and one of the following:

 - 1.** Silt loading equal to or greater than 0.33 oz/ft²; or
 - 2.** Silt content exceeding 6%.
- i.** **Paving Entries And Exits:** The owner and/or operator of a facility shall pave all entries, exits, and main traffic routes associated with such facility. Such entries, exits, and main traffic routes shall be maintained intact and cleaned or controlled through the use of cohesive hard surfaces (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water), when paving is determined to be technically infeasible, as approved in the Dust Control Plan.
- j.** **Restricting Trucks To Paved Surfaces:** The owner and/or operator of a facility shall require all batch trucks and material delivery trucks to remain on paved surfaces or cohesive hard surfaces (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water), when entering, conducting primary functions, and leaving the facility, as approved in the Dust Control Plan.

k. **Internal Roads And Traffic Areas:** The owner and/or operator of a facility shall minimize fugitive dust emissions from internal roads and traffic areas, by implementing one of the following fugitive dust control measures, as applicable:

1. **Unpaved Internal Roads And Traffic Areas For Haul Trucks:**

i. Apply water so that the surface is visibly moist and fugitive dust emissions do not exceed 20% opacity and one of the following:

(a) Silt loading is not equal to or greater than 0.33 oz/ft²; or

(b) Silt content does not exceed 6%; or

ii. Apply a suitable dust suppressant, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

(a) Silt loading is not equal to or greater than 0.33 oz/ft²; or

(b) Silt content does not exceed 6%; or

iii. Cover with a material, such as, but not limited to, roofing shingles (the use of which shall not allow/generate emissions that would constitute a violation of an applicable standard in 40 CFR Part 61, Subpart M - National Emission Standards For Asbestos) or tire chips, when used in combination with Section 306.7(k)(1)(i) or Section 306.7(k)(1)(ii); or

iv. Pave or apply a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride).

2. **Unpaved Internal Roads And Traffic Areas For Aggregate And/Or Mixer Truck And Light-Duty Vehicles:**

i. Apply a suitable dust suppressant, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

(a) Silt loading is not equal to or greater than 0.33 oz/ft²; or

(b) Silt content does not exceed 6%; or

ii. Apply gravel pad containing 1-inch or larger washed gravel maintained to a depth of 6-inches.

l. **Trackout:** The owner and/or operator of a facility shall implement all of the following fugitive dust control measures:

1. At all exits onto paved areas accessible to the public, install, maintain, and use a wheel washing system, rumble grate, or other equivalent trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such facility at all exits onto paved areas accessible to the public.

2. Clean up trackout immediately, when trackout extends a cumulative distance of 25 linear feet or more from all exits onto paved areas accessible to the public. Clean up trackout at the end of the workday for all other trackout.

3. Determine the appropriate trackout control device(s) that is/are deemed acceptable through an approvable Dust Control Plan, after considering the stabilization of the roads, any unpaved shoulders that off-site traffic must cross in order to enter and exit the facility, and property ownership (i.e., if property is being leased or if property is owned by a municipality or another business).

m. **Unpaved Roads At Temporary Facilities:** An owner and/or operator of a temporary facility shall not be required to pave or cover with a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water) all entries, exits, and main traffic routes associated with such temporary facility but shall implement one of the following fugitive dust control measures:

1. Apply water, so that fugitive dust emissions do not exceed 20% opacity and one of the following:

(i) Silt loading is not equal to or greater than 0.33 oz/ft²; or

(ii) Silt content does not exceed 6%; or

2. Apply a dust suppressant other than water.

n. **Unpaved Roads At New Facilities:** The owner and/or operator of a new facility shall maintain a minimum distance of 25 feet from the property line for unpaved roads associated with such facility, except for entrances and exits to the facility.

306.8 **Pad Construction For Processing Equipment:** The owner and/or operator of a facility shall implement fugitive dust control measures during the construction of pads for processing equipment and shall identify, in the Dust Control Plan, such fugitive dust control measures.

306.9 **Crushing And Screening Facilities:** In addition to complying with the fugitive dust emission limitations and/or implementing fugitive dust control measures described in Sections 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, and 306.8 of this rule, as applicable, the owner and/or operator of a crushing and screening facility shall implement all of the following fugitive dust control measures:

a. Enclose sides of all shaker screens.

b. Permanently mount watering systems (e.g., spray bars or an equivalent control) on:

1. Inlet and outlet of all crushers;

2. Outlet of all shaker screens; and

3. Outlet of all material transfer points, excluding wet plants.

306.10 **Concrete Plants And Bagging Operations:** In addition to complying with the fugitive dust emission limitations and/or implementing fugitive dust control measures described in Sections 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, and 306.8 of this rule, as applicable, the owner and/or operator of a concrete plant and bagging operation shall implement all of the following fugitive dust control measures, as applicable:

a. Cement, Lime, And Fly-Ash Storage Silos Controls:

- 1.** Install on all existing cement, lime, and fly-ash storage silos a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.
- 2.** Install on all new cement, lime, and fly-ash storage silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf.

b. Mixer Loading Stations Controls: Implement one of the following fugitive dust control measures:

- 1.** Install a rubber fill tube;
- 2.** Install a water spray/Install a spray device that eliminates visible emissions;
- 3.** Install a properly sized fabric filter baghouse or delivery system/Install a pickup device delivering air to a fabric or cartridge filter;
- 4.** Enclose mixer loading station such that no visible emissions occur; or
- 5.** Conduct mixer loading station in an enclosed process building such that no visible emissions from the building occur during the mixing activities.

c. Cement Silo Filling Processes/Loading Operations Controls: Install on all cement silo filling processes/loading operations a pressure control system that discontinues the loading process if excessive pressure is being used to load the cement silo/designed to shut-off cement silo filling processes/loading operations, if pressure from delivery truck is excessive, as defined in O&M Plan.

d. Spillage:

- 1.** Remove any single spillage of materials with a surface area greater than 25 square feet within one hour of spillage, if such spillage locates on one of the following. If spillage cannot be removed within one hour, spillage

shall be stabilized, so that fugitive dust emissions do not exceed 20% opacity and silt loading is not equal to or greater than 0.33 oz/ft² or silt content does not exceed 6%.

(i) Any paved internal roads and traffic areas; or

(ii) Any unpaved internal roads and traffic areas that are used by trucks and/or front-end loaders for loading, unloading, and/or transferring activities;

2. Remove, apply water to, or cover any single spillage of materials that has a surface area between 9 square feet and 25 square feet or does not occur on areas described in Sections 306.10(d)(1)(i) and 306.10(d)(1)(ii) of this rule, by the end of each day.

306.11 Asphaltic Concrete Plants: In addition to complying with the fugitive dust emission limitations and/or implementing fugitive dust control measures described in Sections 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, and 306.8 of this rule, as applicable, the owner and/or operator of an asphaltic concrete plant shall implement all of the following fugitive dust control measures, as applicable:

a. Drum Dryer Controls: Control and vent exhaust from all drum dryers to a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.

b. Cement, Lime, And Fly-Ash Storage Silos Controls:

1. Install on all existing cement, lime, and fly-ash storage silos a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.

2. Install on all new cement, lime, and fly-ash storage silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf, with an opacity limit of not greater than 5% over a 6-minute period.

- c. Fugitive Dust Emissions - Non-Rubberized Asphaltic Concrete Plants:** Shall not discharge or cause or allow to be discharged into the ambient air stack emissions exceeding 5% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter over a 6-minute period for non-rubberized asphaltic concrete plants.
- d. Fugitive Dust Emissions - Rubberized Asphaltic Concrete Plants:** Shall not discharge or cause or allow to be discharged into the ambient air stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter over a 6-minute period for rubberized asphaltic concrete plants (when using rubberized asphalt only).
- e. Fugitive Dust Emissions At Night:** Implement and maintain fugitive dust control measures, as described/approved in the Dust Control Plan.

307 DUST CONTROL PLAN: The owner and/or operator of a facility shall submit to the Control Officer a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 of this rule/as required by Section 306 of this rule and/or as required in order to prevent fugitive dust emissions from exceeding 20% opacity. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 O&M PLAN COMPLIANCE SCHEDULE: Any owner or operator of a facility employing an ECS device as of April 21, 1999 to meet the requirements of this rule, shall file, by October 18, 1999, an O&M Plan with the Control Officer in accordance with subsection 501.3 of this rule. The newly amended provisions of this rule shall become effective upon adoption of this rule and the following schedule applies:

401.1 O&M Plan: When complying with Section 305 of this rule, an O&M Plan shall be submitted to the Control Officer by May 31, 2005 or three months after rule adoption, whichever comes first.

- 401.2** **Dust Control Plan:** When complying with Section 307 of this rule, a Dust Control Plan shall be submitted to the Control Officer by May 31, 2005 or three months after rule adoption, whichever comes first.
- 401.3** **Pressure Control System:** When complying with Section 306.10(c) of this rule, a pressure control system shall be installed by August 31, 2005 or six months after rule adoption, whichever comes first.
- 401.4** **Operational Overflow Warning System/Device:** When complying with Section 306.4 of this rule, an operational overflow warning system/device shall be installed by August 31, 2005 or six months after rule adoption, whichever comes first.
- 401.5** **Fugitive Dust Control Technician:** When complying with Section 306.3 of this rule, a Fugitive Dust Control Technician shall be in place by August 31, 2005 or six months after rule adoption, whichever comes first.
- 401.6** **Certified Method 9 Observer:** When complying with Section 306.2 of this rule, a Certified Method 9 Observer shall be in place by August 31, 2005 or six months after rule adoption, whichever comes first.
- 401.7** **Surface Stabilization And/Or Paving:** When complying with Section 306.6 and/or Section 306.7 of this rule, surface stabilization and/or paving shall be completed by August 31, 2005 or six months after rule adoption, whichever comes first.

SECTION 500 - MONITORING AND RECORDS

- 501** **RECORDKEEPING AND REPORTING:** Any ~~person~~ owner and/or operator of a facility subject to this rule shall comply with the following requirements. Records shall be retained for 5 years and shall be made available to the Control Officer upon request.
- 501.1** Operational information required by this rule shall be kept in a complete and consistent manner on-site and be made available without delay to the Control Officer upon request.
- 501.2** Records of the following process and operational information, as applicable, are required:
- a.** **General Data:** Daily records shall be kept for all days that a ~~plant~~ facility is actively operating. Records shall include all of the following: ~~hours of operation;~~

Draft Rule 316 – August 25, 2004

Contact Johanna M. Kuspert At 602-506-3476 Or By E-Mail At jkuspert@mail.maricopa.gov

~~type of batch operation (wet, dry, central); throughput per day of basic raw materials including sand, aggregate, cement, (tons/day); volume of concrete and asphaltic concrete produced per day; volume of aggregate mined per day (cu. yds./day); composition of a cubic yard of concrete produced (percent cement, sand, aggregate, admixture, water, fly ash, etc.); composition of a cubic yard of asphaltic concrete produced (percent cement, sand, aggregate, gypsum, admixture, water, fly ash, etc.); amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).~~

1. Hours of operation;
2. Type of batch operation (wet, dry, central);
3. Throughput per day of basic raw materials including sand, aggregate, cement (tons/day);
4. Volume of concrete and asphaltic concrete produced per day;
5. Volume of aggregate mined per day (cubic yards/day); and
6. Amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).

b. **Additional Data For Dry Mix Concrete Plants Bagging Operations:** ~~The number of bags of dry mix produced per day; weight (size) of bags of dry mix produced per day; kind and amount of fuel consumed in dryer (cu. ft./day or gals./day); kind and amount of any back up fuel (if any).~~ Records shall include all of the following:

1. Number of bags of dry mix produced;
2. Weight (size) of bags of dry mix produced;
3. Kind and amount of fuel consumed in dryer (cubic feet/day or gallons/day); and
4. Kind and amount of any back-up fuel, if any.

- c. **Control And Monitoring Device Data:** ~~Baghouse records shall include dates of inspection, dates and designation of bag replacement, dates of service or maintenance, related activities, static pressure gauge (manometer) hourly readings. Scrubber records shall include dates of service or maintenance related activities; the scrubbing liquid flow rate; the pressure or head loss; and/or any other operating parameters which need to be monitored to assure that the scrubber is functioning properly and operating within design parameters. Records of time, date and cause of all control device failure and down time shall also be maintained. Records shall include all of the following:~~

1. For a fabric filter baghouse:

- i. Date of inspection;
- ii. Date and designation of bag replacement;
- iii. Date of service or maintenance related activities;
- iv. Static pressure gauge (manometer) readings; and
- v. Time, date, and cause of fabric filter baghouse failure and/or down time, if applicable.

2. For a scrubber:

- i. Date of service or maintenance related activities;
- ii. Liquid flow rate;
- iii. Pressure or head loss;
- iv. Other operating parameters that need to be monitored to assure that the scrubber is functioning properly and operating within design parameters; and

- v. Time, date, and cause of scrubber failure and/or down time, if applicable.

501.3 ECS O&M Plan Records: An owner ~~or~~ and/or operator of a facility shall maintain ~~a record of the periods of time that an approved ECS is used to comply with this rule. Key system parameters, such as flow rates, pressure drops, and other conditions necessary to determine if the control equipment is functioning properly, shall be recorded in accordance with the approved O&M Plan. The records shall account for any periods when the control system was not operating. The owner or operator of a facility shall also maintain results of the visual inspection and shall record any corrective action taken, if necessary.~~ all of the following records in accordance with an approved O&M Plan:

- a. Periods of time that an approved ECS is operating to comply with this rule;
- b. Periods of time that an approved ECS is not operating;
- c. Flow rates;
- d. Pressure drops;
- e. Other conditions necessary to determine if the approved ECS is functioning properly;
- f. Results of visual inspections; and
- g. Correction action taken, if necessary.

501.4 Dust Control Plan Records: An owner and/or operator of a facility, when complying with Section 306 of this rule, compile, maintain, and retain Dust Control Plan records as described in Rule 310 (Fugitive Dust) of these rules.

502 COMPLIANCE DETERMINATION/TEST METHODS ADOPTED BY REFERENCE: The test methods for those subparts of 40 ~~Code Of Federal Regulations (CFR)~~ Part 60, Appendix A, adopted as of ~~July 1, 1998~~ July 1, 2003, as listed below, are adopted by reference as indicated. This adoption by reference includes no future editions or amendments. Copies of test methods referenced in Section 502 of this rule are available at the Maricopa County Environmental Services Department, 1001 North Central Avenue, Phoenix, Arizona, 85004-1942. When more than one test method is

permitted for a compliance determination, then an exceedance of the limits established in this rule, determined by any of the applicable test methods, constitutes a violation of this rule.

502.1 Grain Loading: Particulate matter and associated moisture content shall be determined using the applicable EPA Reference Methods 1 through 5, 40 CFR Part 60, Appendix A.

502.2 Opacity Determination: Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the techniques specified in EPA Reference Method 9, 40 CFR Part 60, Appendix A, except the opacity observations for intermittent visible emissions shall require 12 (rather than 24) consecutive readings at 15-second intervals.

502.3 Stabilization Determination: Stabilization determinations shall be determined using the following test methods in accordance with Appendix C (Fugitive Dust Test Methods) of these rules:

- a.** ASTM Method D2216-98 ("Standard Test Method For Laboratory Determination Of Water (Moisture) Content Of Soil And Rock By Mass"), 1998 edition.
- b.** ASTM Method D1557-91 (1998) ("Test Method For Laboratory Compaction Characteristics Of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³")), 1998 edition.